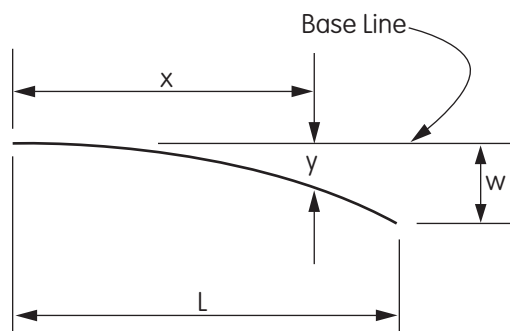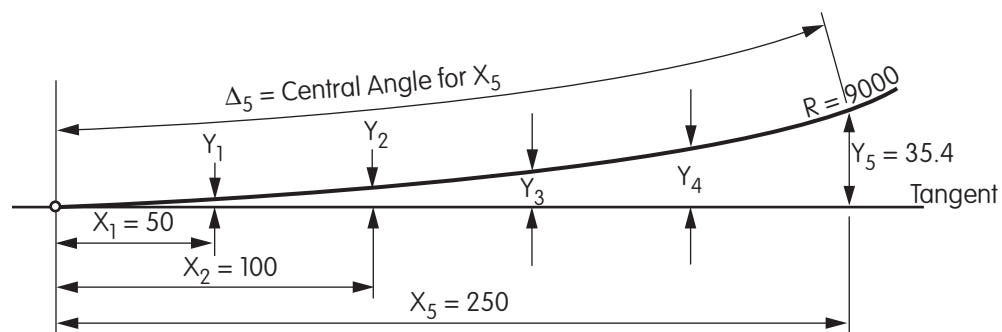# Curve Formulas

$$y = \frac{wx^2}{L^2}$$

L = Length of flare
w = Maximum offset
x = distance along base line
y = Offset from base line

Given: R and X

Sought: OFFSET Y

(1) $SIND = \dfrac{X}{R}$

(2) $Y = R \text{ VERS } \Delta = R(1 - COS \ \Delta)$

Given: Y and X

Sought: R

(1) $TAN\dfrac{\Delta}{2} = \dfrac{Y}{X}$

(2) $R = \dfrac{X}{SIN\Delta}$

Note: For approximate results the simpler formula

$$\left(Y = \frac{X^2}{2R} \right)$$

may be used. (The error is 1% when X = 0.2R) This table may be used for other Radii by moving the decimal equally in R, X, and Y.